

ITS Technical Bulletin 157

NATURAL 2.2.3

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Section/Groups: Database Administration
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Information Technology Services is planning to implement NATURAL 2.2.3 in the Training Region on April 30, 1993 and in all other NATURAL 2.1.7 environments on May 2, 1993. Because of some unique circumstances with this release, it will not be possible to introduce this version of NATURAL into a development environment before moving it to production.

We have had this release installed in the development and production environments for the Office of Education since January, 1993. This release has also been available to all state agencies for testing in an isolated development region since November, 1992. This has given us the opportunity to identify and deal with some unexpected problems. There are, however, many changes and enhancements introduced by the implementation of this release. New releases of related products such as NATURAL VSAM, NATURAL Optimizer Compiler, and NATURAL Construct are also required by the implementation of NATURAL 2.2.3.

In the CICS environments, the NATURAL threads will be running above the 16-megabyte line. This can cause problems for NATURAL applications that are calling external programs with 24-bit addressability such as OS/VS COBOL. Currently, many NATURAL programs pass data to external programs by indicating the name of a data element followed by a length parameter. This indicates that a certain number of bytes starting with the location of the specified data element are to be passed to the called program.

When the NATURAL threads are running above the 16-megabyte line and you are calling a 24-bit addressable program, this no longer works. In this type of environment, only the value of the first parameter being passed to the external program is recognized; the length parameter has no meaning. If your NATURAL applications are calling programs with 24-bit addressability and you are passing the values from more than one data element to the external program, you will need to make one of the following changes:

1. Relink the external program so that it has 31-bit addressability. No change is required in your NATURAL application if this is done.
2. Change the CALL statement in your NATURAL application to include the names of all fields to be passed to the external program and omit the length parameter field that is currently included in the call statement.
3. Modify the data area of your NATURAL program to make all passed fields part of a group field. Change the call statement to list the group field name as the parameter to be

passed. Omit the length parameter field that is currently included in the call statement.

DPRJE, which is commonly called from NATURAL in CICS to submit batch jobs, will be linked as a 31 bit program. Therefore, no changes will be required when calling this program.

Another change in this release that may affect existing applications is the expansion of the length of the system variables *ISN, *NUMBER, and *COUNTER from P8 to P10. This could affect reports or maps that display these values. A new session parameter, NL, can be used to limit the size of numeric fields that are used in input, write, display, format, and print statements; i.e., DISPLAY *ISN(NL=8). This should eliminate the need to redesign maps or reports which include these system variables.

The SCAN utility has been available to scan entire applications for certain text strings. (This is not the same function as the SCAN command used within the program editor.) In the new release of NATURAL Security, the ability to control the use of this utility has been grouped together with several other NATURAL utilities. We are currently working to find a way to allow this use of this utility as a stand-alone option. Until we are able to resolve this issue, the SCAN utility which is used to scan entire libraries will not be available.

We have compiled a set of documentation which includes the following material:

1. A document presented by Mark Braukhoff from Software A.G. which identifies some areas that may cause problems when migrating to this release
2. A document prepared by Dave Williamson, Database Administration, outlining some of the changes that were noted throughout the trial phase of the NATURAL 2.2.3 implementation
3. A document from Software A.G.'s Service Connection which explains how external programs should be called from NATURAL
4. Portions of the release notes received from Software A.G. that detail changes in the functionality and operation of the various products related to this implementation

Because of the size of this document, we will make it available on a request basis. Please contact Elaine Oaks at 538-3462 if you are interested in receiving this information.

If you have not obtained the new set of NATURAL 2.2 manuals, they can be also be ordered through Elaine Oaks at I.T.S. Because there are extensive changes in the entire manual series, it is recommended that you have a copy of the new documentation available.

Please contact Database Administration at 538-3235 if you have any additional questions or problems with these products.